

Work Order ID 128744

128744

Page 1

Wednesday, February 04, 2015 10:56:46 AM

Item ID: D4297-3 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bearpaw
 Start Date: 1/23/2015 Start Qty: 6.00 ***6*** Cust Item ID:
 Required Date: 1/30/2015 Req'd Qty: 6.00 ***6*** Customer:
 Reference:

Approvals: Process Plan: mm Date: 15-2-4 Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
 Run Start ***NR1***
 Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4297	REV C								
120		0.00							
120	FLOW WATER JET					6			<u>15/01/25</u>
Waterjet	Memo	0.00							
FLOW CNC Waterjet	Cut Blank as per D2432 File (SAME BLANK AS D2432)								
130		0.00							
130	HAAS CNC VERTICAL MACHINING #1					6	0		<u>15/01/26</u>
HAAS 1	Memo	0.00							
HAAS CNC vertical machine #1	1-Inspect material for defects or damage prior to machining 2-Machine as per Folio FA127 and Dwg DWG REV: <u>AA</u> FOLIO REV: <u>C</u> 3-Deburr								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 128744

Wednesday, February 04, 2015 10:56:46 AM

128744

Page 3

Item ID: D4297-3

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Bearpaw

Start Date: 1/23/2015 Start Qty: 6.00

6

Cust Item ID:

Required Date: 1/30/2015 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

ML5

15-02-05

mt
5-2-5

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Picklist Print

Wednesday, February 04, 2015 10:56:46 AM

Page 1

Work Order ID: 128744

128744

Parent Item: D4297-3

D4297-3

Parent Item Name: Bearpaw

Start Date: 1/23/2015

Required Date: 1/30/2015

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV:A NEW ISSUE 12-07-25 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

MUHMWB10

Purchased

No

sf

190.8895

24

MUHMWB10

on 15/01/25

UHMW 1" Black - 48"x120" Tivar Mfg.#52480104

Location

Loc Qty

Loc Code

MAT018

190.8895

m128092

1.7225

m131335

189.167

30.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

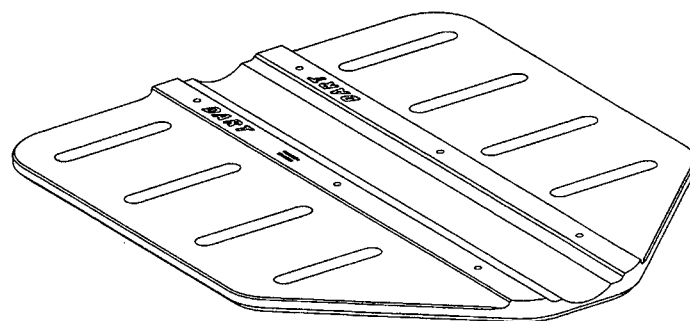
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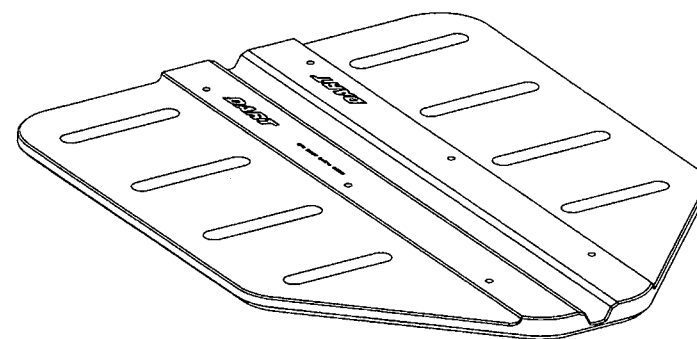
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FAULT CATEGORY

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D4297-1 BEARPAW



D4297-3 BEARPAW

RELEASED
2012-07-23
WMD

C	REVISED DRAWING FORMAT, ADDED D4297-3; ADDED DIMENSION 7.52 (D1-2)	AP	12.07.13
B	BOTTOM CHAMFER CHANGED FROM 0.125" TO 0.250", ZN B8-2; TOP CHAMFER CHANGED FROM .125" TO 0.062", ZN C8-2 (REF PAR 11-80)	XDF	11.10.25
A	NEW ISSUE	RF	10.12.15
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	A.S.	DRAWING NO.	REV. C
MFG. APPR.	21	D4297	SHEET 1 OF 3
APPROVED	14	TITLE	SCALE
DE APPR.	14	BEARPAW	NTS
DATE	12.07.13	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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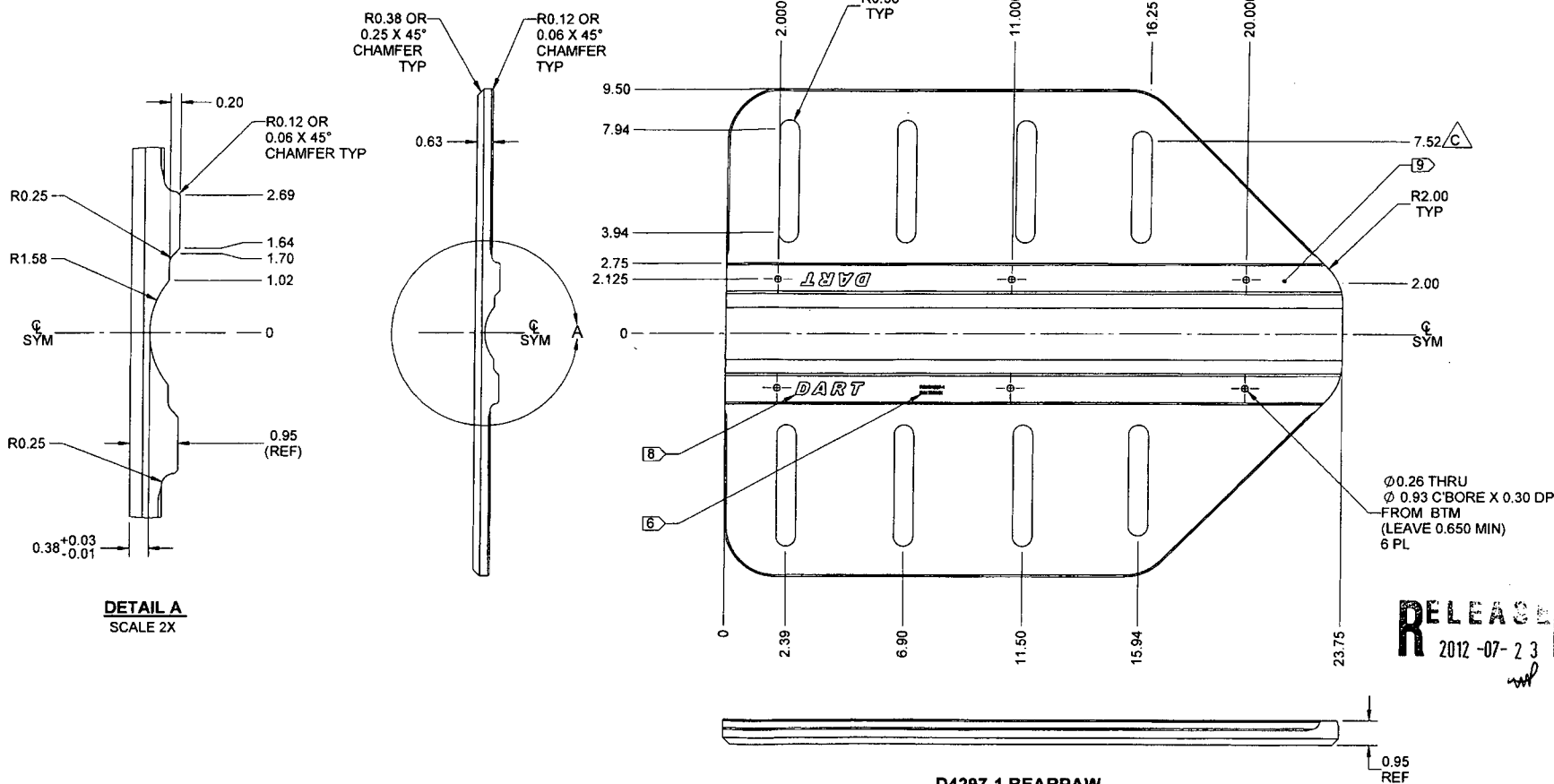
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NOTES:

- 1) MATERIAL: UHMW BLACK TIVAR 1000 VIRGIN MATERIAL, 1.000 THICK MACHINED TO 0.950 (REF DART SPEC. MUHMBW10)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE PART NUMBER "D4297-1" AND BATCH NUMBER "BXXXXX" IN ACCORDANCE WITH QSI 044 METHOD 6.3
- 7) WEIGHT: 8.18 lbs
- 8) ENGRAVE DART LOGO TO MAX DEPTH OF 0.012
- 9) APPLY 0.06 x 45° CHAMFER TO ALL EDGES ON SIDE SHOWN UNLESS OTHERWISE INDICATED
- 10) PROFILE PER DRAWING FILE "D4297-1-REV.C.STP"

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	ASS	DRAWING NO.	REV. C
MFG. APPR.	2/1	D4297	SHEET 2 OF 3
APPROVED	10	TITLE	SCALE
DE APPR.	10	BEARPAW	NTS
DATE	12.07.13	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE REPRODUCED OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

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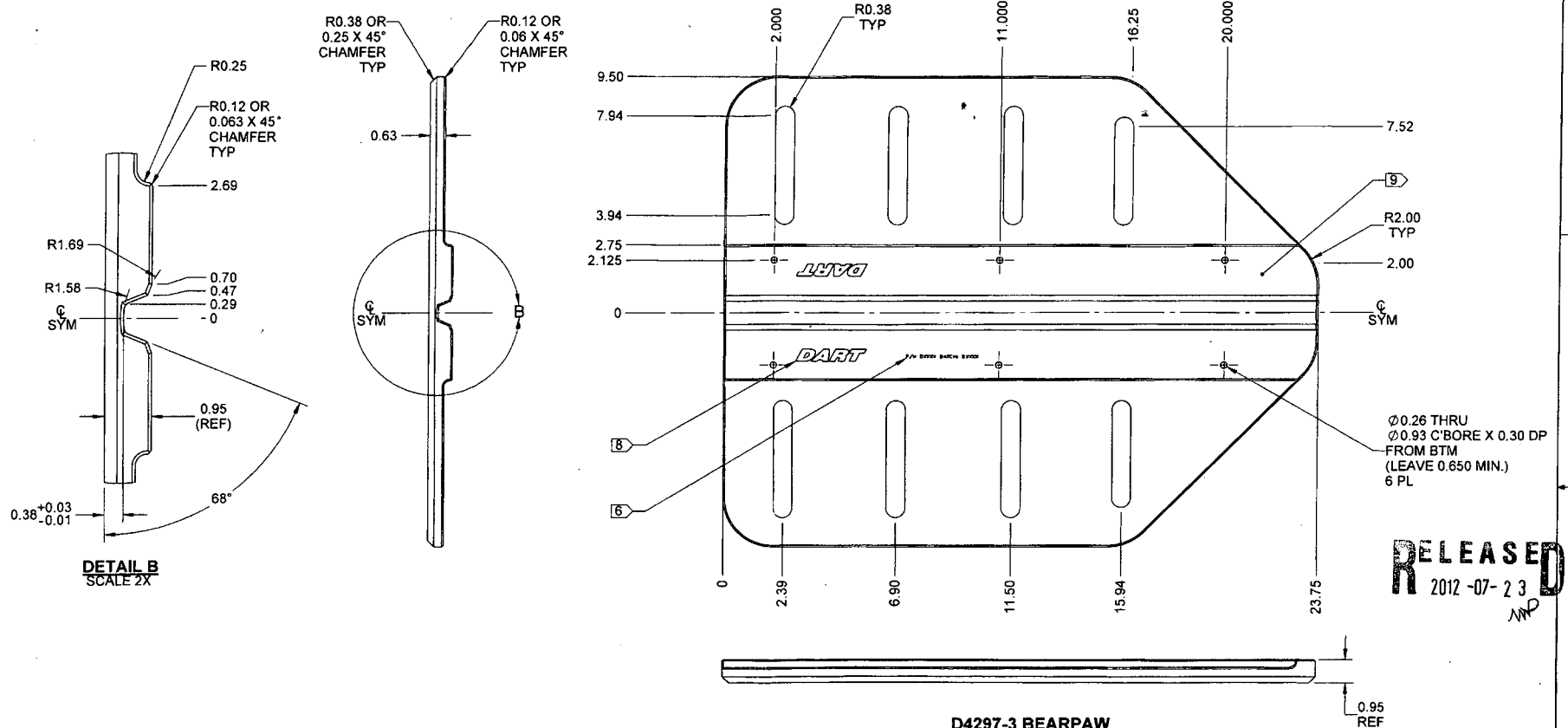
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RELEASED
2012-07-23

D4297-3 BEARPAW

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- 1) MATERIAL: UHMW BLACK TIVAR 1000 VIRGIN MATERIAL, 1.000 THICK MACHINED TO 0.950 (REF DART SPEC. MUHMB10)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE PART NUMBER "D4297-3" AND BATCH NUMBER "BXXXXX" IN ACCORDANCE WITH QSI 044 METHOD 6.3
- 7) WEIGHT: 8.67 lbs
- 8) ENGRAVE DART LOGO TO MAX DEPTH OF 0.012
- 9) APPLY 0.06 X 45° CHAMFER TO ALL EDGES ON SIDE SHOWN UNLESS OTHERWISE INDICATED
- 10) PROFILE PER DRAWING FILE "D4297-3-REVC.STP"

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	ASS	DRAWING NO.	REV. C
MFG. APPR.	2/	D4297	SHEET 3 OF 3
APPROVED	14/	TITLE	SCALE
DE APPR.	14/	BEARPAW	NTS
DATE	12.07.13	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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DART AEROSPACE LTD		Work Order:	118744
Description: Bear paw		Part Number:	D4297-3
Inspection Dwg: D4297 Rev: C		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0,063 X 45°	+ 0,030 / - 0,010	0,063	✓		MJP-04	vern
5,500	+ 0,030	5,500	✓		↓	↓
0,750	+ 0,030	0,750	✓		↓	↓
0,250 X 45°	+ 0,030	0,250 X 45°	✓		↓	↓
R 0,250	+ 0,030	0,250	✓		—	Radius gauge
0,63	+ 0,030	0,650	✓		MJP-04	vern
0,38	+ 0,030 / - 0,010	0,385	✓		118-120	deep tooth mic
0,950	+ 0,030 / - 0,010	0,965	✓		MJP-04	vern
19,000	+ 0,030	19,000	✓		MJP-07	Tape
Ø 1,400	+ 0,030	1,380	✓		MJP-04	vern
Ø 0,260	+ 0,005 / - 0,001	0,260	✓		↓	↓
0,930	+ 0,030	0,930	✓		↓	↓
0,30	+ 0,030 / - 0,000	0,317	✓		MJP-08	Dial depth mic
23,750	+ 0,030	23,750	✓		MJP-07	Tape
4,250						
4,250	+ 0,010	4,250	✓		MJP-04	vern
2,00	+ 0,030	1,996	✓		...	...
9,000	+ 0,010	9,000	✓		calc-01	vern
9,000	+ 0,010	9,000	✓		...	...

Measured by: <i>[Signature]</i>	Audited by: DAS 14	Preliminary Approval:
Date: 15/01/25	Date: 15/01/28	Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15